UNITED STATES PATENT AND TRADEMARK OFFICE

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10/711,230	09/02/2004	Mark K. Howe	BORL/0223.00	5229

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JOHN A. SMART
708 BLOSSOM HILL RD., #201
LOS GATOS, CA 95032

EXAMINER
NAHAR, QAMRUN

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 September 2004*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-60* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-60* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *02 September 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date *10/12/2006*.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____ .

DETAILED ACTION

1. Claims 1-60 have been examined.

Oath/Declaration

2.   The oath or declaration is defective. A new oath or declaration in compliance with 37

CFR 1.67(a) identifying this application by application number and filing date is required. See

MPEP §§ 602.01 and 602.02.

> The oath or declaration is defective because:
> Last name of inventor Mark K. Howe is misspelled. It is shown as "IIowe" on the
> oath/declaration.

Specification

3.   The use of the trademark JAVA has been noted in this application. It should be

capitalized wherever it appears and be accompanied by the generic terminology.

Although the use of trademarks is permissible in patent applications, the proprietary

nature of the marks should be respected and every effort made to prevent their use in any manner

which might adversely affect their validity as trademarks.

Claim Rejections - 35 USC § 101

4.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or
> any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and
> requirements of this title.

5.   Claims 16-30 are rejected under 35 U.S.C. 101 because the claimed invention is directed

to non-statutory subject matter.

Claim 16 appears to be a system of software alone, lacking the necessary physical

components (hardware) to constitute a machine or a manufacture under 101. Since claim 16 is

clearly not a process or a composition of matter, it appears to fail to fall within a statutory

category and thus non-statutory.

Claims 17-30 are rejected for failing to cure the deficiencies of the above rejected non-

statutory claim 16.

Claim Rejections - 35 USC § 102

6.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on
sale in this country, more than one year prior to the date of application for patent in the United States.

7.   Claims 1-60 are rejected under 35 U.S.C. 102(b) as being anticipated by Li, et al., "Tool

Support for Refactoring Functional Programs", August 28, 2003 (hereinafter Li).

Per Claim 1:

The Li publication discloses:

**- in response to a change that affects a particular symbol of a software module that resides

in a first project, refactoring the software module of the first project to propagate the

change to all instances of the particular symbol in the software module** ("... Figure 6 also

shows a particular refactoring scenario. The user has selected the identifier format in the

definition of table, has chosen the duplicateDef command from the Refactor menu ... the

refactorer ensures consistent renaming, including recursive calls ..." on pg. 34, 1st column, par.

2, lines 1-9)

- during the refactoring of the software module of the first project, recording meta data

about the refactoring that is required to effect the change; and automatically propagating

the change to a dependent software module residing in a second project, by refactoring the

dependent software module based on the recorded meta data about the refactoring that

occurred to the software module of the first project ("... Renaming ... Any program identifier

can be renamed, as in Figure 4 where fmt replaces format. It is important to ensure that all and

only the uses of one binding are renamed. Conditions. The existing binding structure must not

be affected. No binding for the new name may exist in the same binding group. No binding for

the new name may intervene between the binding of the old name and any of its uses, as the

renamed identifier would be captured by the renaming. The binding to be renamed must not

intervene between existing bindings and uses of the new name. ..." on pg. 30, 2nd column, par. 9

to par. 10; and see Figure 6, item "rename" under the menu "Refactor").

Per Claim 2:

The Li publication discloses:

- wherein the dependent software module is refactored with assistance of a symbol table

used for resolving symbol references, and wherein said automatically propagating step

includes: copying symbol information about the particular symbol used for the software

module of the first project into the symbol table used for refactoring the dependent

software module (pg. 35, 2ⁿᵈ column, par. 1 to par. 4).

Per Claim 3:

The Li publication discloses:

- removing symbol information about the particular symbol used for the software module

of the first project from the symbol table used for refactoring the dependent software

module after the refactoring of the dependent software module (pg. 34, 1ˢᵗ column, par. 4).

Per Claim 4:

The Li publication discloses:

- wherein said copying symbol information step includes copying symbol information into a

compiler symbol table used for refactoring the dependent software module (pg. 35, 2ⁿᵈ

column, par. 1 to par. 4).

Per Claim 5:

The Li publication discloses:

- wherein said copying symbol information step includes creating source code based on the

recorded meta data (pg. 34, 1ˢᵗ column, par. 4).

Per Claim 6:

The Li publication discloses:

- parsing the source code so as to indirectly inject symbol information into the symbol table used for refactoring the dependent software module (pg. 35, 2nd column, par. 1).

Per Claim 7:

The Li publication discloses:

- wherein said copying symbol information step includes indirectly injecting symbol information for a class into the symbol table by parsing the source code and directly injecting symbol information for members of the class into the symbol table (pg. 35, 2nd column, par. 1).

Per Claim 8:

The Li publication discloses:

- deleting the source code after refactoring the dependent software module (pg. 36, 2nd column, par. 5).

Per Claim 9:

The Li publication discloses:

-- **wherein the refactoring of the software module of the first project comprises a selected one of renaming a package, changing a method signature, renaming a method, renaming a field, and renaming a class** (on pg. 34, 1st column, par. 2, lines 1-9).

Per Claim 10:

The Li publication discloses:

- **wherein said automatically propagating step includes propagating changes to the dependent software module so as to maintain compatibility with the software module of the first project** (on pg. 34, 1st column, par. 2, lines 1-9).

Per Claim 11:

The Li publication discloses:

- **wherein said recording step includes recording meta data before and after refactoring of the software module of the first project** (pg. 34, 1st column, par. 3 to par. 4).

Per Claim 12:

The Li publication discloses:

- wherein said recording step includes recording information in Extensible Markup

Language (XML) format (pg. 34, 1st column, par. 3 to par. 4).

Per Claim 13:

The Li publication discloses:

- wherein the software module of the first project is in a first programming language and

the dependent software module of the second project is in a second programming language

(pg. 34, Figure 7).

Per Claim 14:

The Li publication discloses:

- a computer-readable medium having processor-executable instructions for performing

the method of claim 1 (pg. 34, Figures 6 and 7).

Per Claim 15:

The Li publication discloses:

- a downloadable set of processor-executable instructions for performing the method of

claim 1 (pg. 34, Figures 6 and 7).

Per Claim 16:

This is a system version of the claimed method discussed above (claims 1 and 2), wherein

all claim limitations also have been addressed and/or covered in cited areas as set forth above.

Thus, accordingly, this claim is also anticipated by Li.

Per Claim 17:

The Li publication discloses:

- wherein the second software module is dependent upon the first software module (pg. 30,

2nd column, par. 9 to par. 10; and see Figure 6, item "rename" under the menu "Refactor").

Per Claims 18, 19, 22, 23, 26, 27 & 30:

These are system versions of the claimed method discussed above (claims 10, 9, 6, 4, 11,

12 & 13, respectively), wherein all claim limitations also have been addressed and/or covered in

cited areas as set forth above. Thus, accordingly, these claims are also anticipated by Li.

Per Claim 20:

The Li publication discloses:

- wherein the injector module creates source code based on the first software module and

the recorded information (pg. 34, 1st column, par. 4).

Per Claim 21:

The Li publication discloses:

- wherein said injector module decompiles at least a portion of the first software module for creating source code (pg. 34, 1st column, par. 4).

Per Claim 24:

The Li publication discloses:

- wherein the first software module comprises a library (pg. 34, Figure 6).

Per Claim 25:

The Li publication discloses:

- wherein the second software module comprises an application using the library (pg. 34, Figure 7).

Per Claim 28:

The Li publication discloses:

- wherein the first software module runs on a first machine and the second software module runs on a second machine (pg. 35, 2nd column, par. 5).

Per Claim 29:

The Li publication discloses:

- wherein the first software module is in a first project and the second software module is in a second project (pg. 30, 2nd column, par. 9 to par. 10).

Per Claims 31-34, 36, 38, 41-44:

These are another versions of the claimed method discussed above (claims 1-4, 7, 9, 11, 12, 14 & 15, respectively), wherein all claim limitations also have been addressed and/or covered in cited areas as set forth above. Thus, accordingly, these claims are also anticipated by Li.

Per Claim 35:

This is another version of the claimed method discussed above (claims 5 and 6), wherein all claim limitations also have been addressed and/or covered in cited areas as set forth above. Thus, accordingly, this claim is also anticipated by Li.

Per Claim 37:

The Li publication discloses:

- **wherein said applying step includes applying the refactoring with assistance of a compiler for identifying and changing symbols of the second software program** (on pg. 35, 1st column, par. 5 to 2nd column, par. 4).

Per Claim 39:

The Li publication discloses:

- **wherein the first software program comprises a library** (pg. 34, Figure 6).

Per Claim 40:

The Li publication discloses:

- **wherein the second software program comprises an application using the library** (pg. 34, Figure 7).

Per Claim 45:

This is another version of the claimed method discussed above (claims 1, 2 and 6), wherein all claim limitations also have been addressed and/or covered in cited areas as set forth above. Thus, accordingly, this claim is also anticipated by Li.

Per Claim 46:

The Li publication discloses:

- wherein the second software module is dependent upon the first software module (pg. 30,

2nd column, par. 9 to par. 10; and see Figure 6, item "rename" under the menu "Refactor").

Per Claims 47-49, 51, 52, 54-56 & 58-60:

These are another versions of the claimed method discussed above (claims 10, 9, 5-7, 4 &

11-15, respectively), wherein all claim limitations also have been addressed and/or covered in

cited areas as set forth above. Thus, accordingly, these claims are also anticipated by Li.

Per Claim 50:

The Li publication discloses:

- wherein said step of creating source code includes decompiling at least a portion of the

first software module (pg. 34, 1st column, par. 4).

Per Claim 53:

The Li publication discloses:

- removing said at least one symbol table entry from said symbol table after applying the

refactoring to the second software module (pg. 36, 2nd column, par. 5).

Per Claim 57:

The Li publication discloses:

- wherein the first software module runs on a first machine and the second software

module runs on a second machine (pg. 35, 2nd column, par. 5).

Conclusion

8.   Any inquiry concerning this communication from the examiner should be directed to

Qamrun Nahar whose telephone number is (571) 272-3730. The examiner can normally be

reached on Mondays through Fridays from 9:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Wei Y Zhen, can be reached on (571) 272-3708. The fax phone number for the

organization where this application or processing is assigned is (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding

should be directed to the TC 2100 Group receptionist whose telephone number is 571-272-2100.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Qamrun Nahar/   **MARY STEELMAN**
Qamrun Nahar   **PRIMARY EXAMINER**
August 23, 2007